NE Drought Conditions CARC Update: April 2011

Mark Svoboda and Brian Fuchs
National Drought Mitigation Center
University of Nebraska-Lincoln

University of Nebraska Lincoln

National Drought Mitigation Center

Current Conditions around Nebraska and the region…

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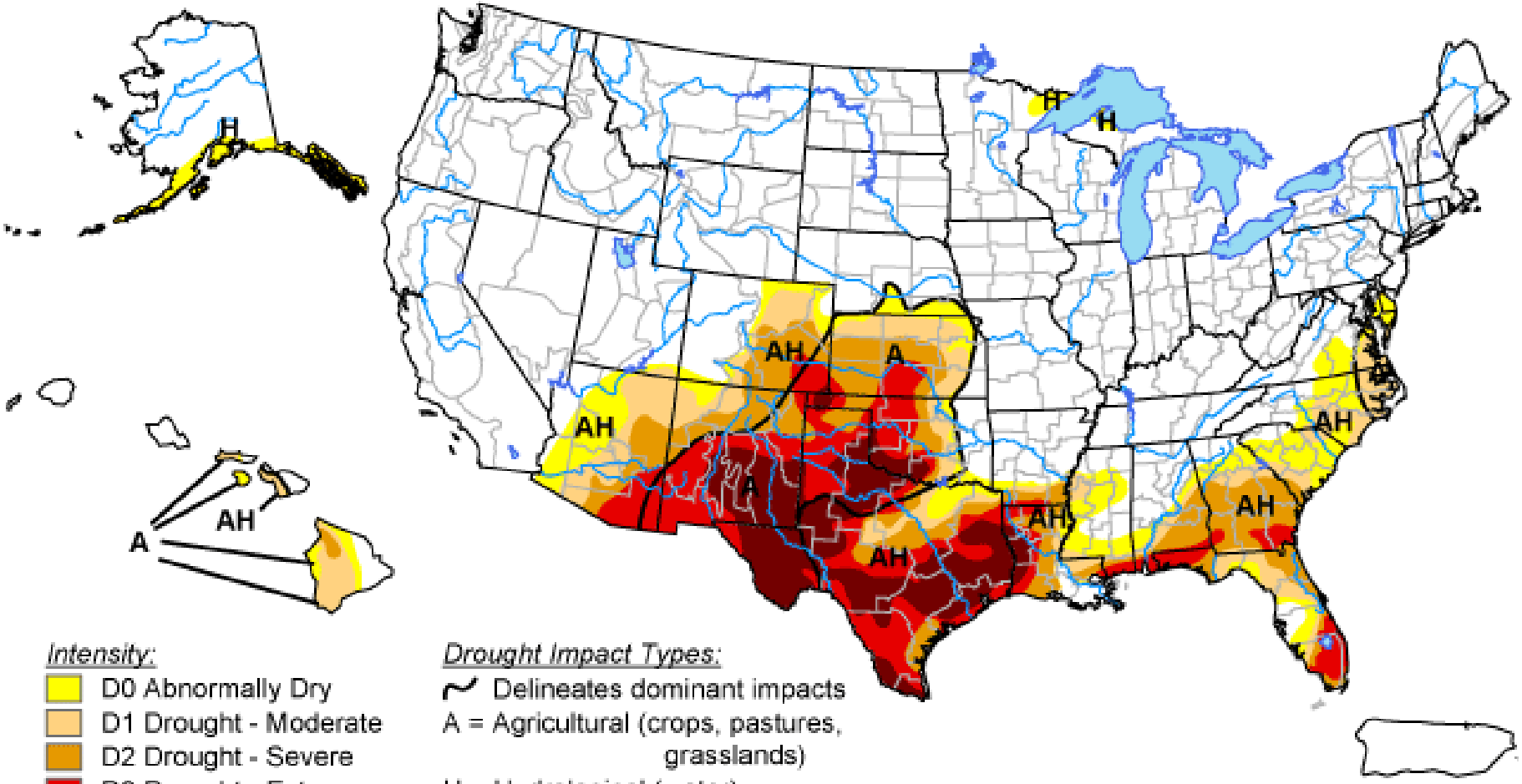
U.S. Drought Monitor

May 17, 2011
Valid 8 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

Released Thursday, May 19, 2011

Author: David Miskus, NOAA/NWS/NCEP/CPC

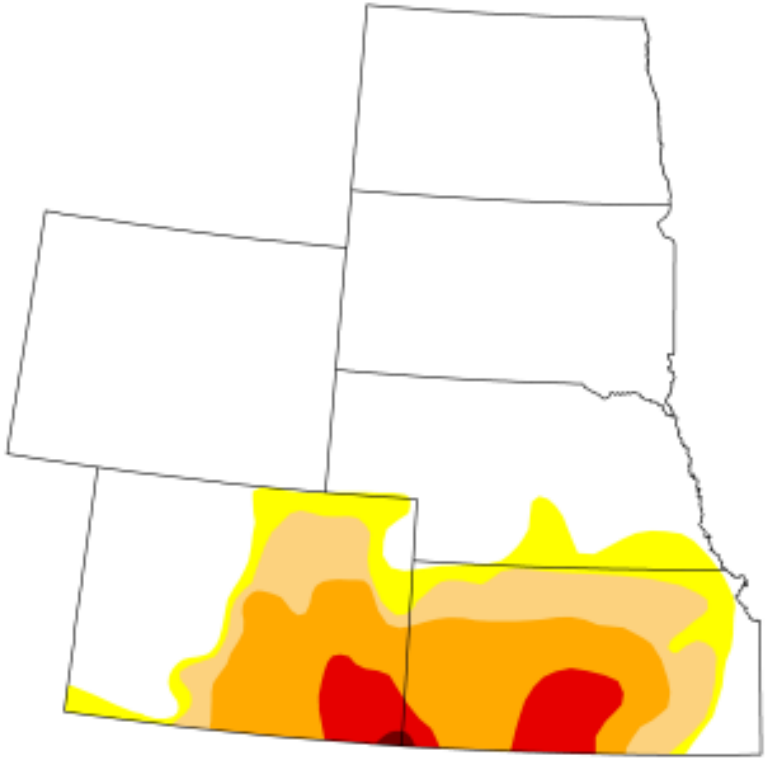
U.S. Drought Monitor

May 17, 2011
Valid 7 a.m. EST

High Plains

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	71.93	28.07	21.96	14.40	3.53	0.10
Last Week (05/10/2011 map)	66.62	33.38	23.52	14.94	0.90	0.03
3 Months Ago (02/15/2011 map)	62.25	37.75	18.93	2.39	0.00	0.00
Start of Calendar Year (12/28/2010 map)	60.35	39.65	19.57	2.63	0.00	0.00
Start of Water Year (09/28/2010 map)	65.06	34.94	3.73	0.00	0.00	0.00
One Year Ago (05/11/2010 map)	82.95	17.05	7.16	3.01	0.00	0.00



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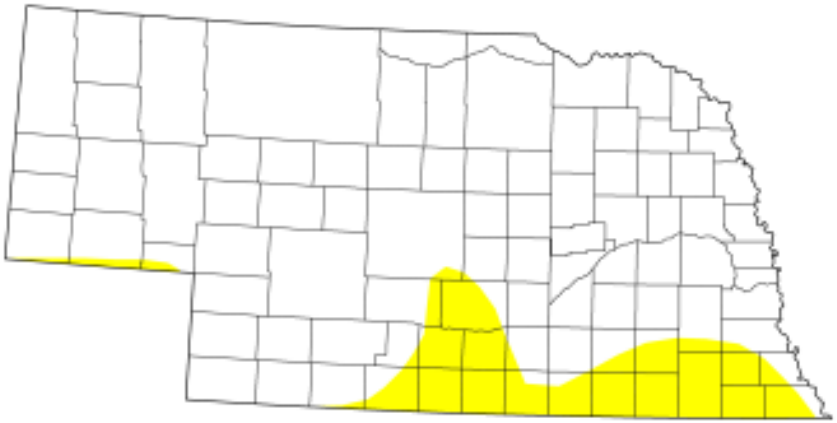
Nebraska

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	87.93	12.07	0.00	0.00	0.00	0.00
Last Week (05/10/2011 map)	59.27	40.73	0.23	0.00	0.00	0.00
3 Months Ago (02/15/2011 map)	53.97	46.03	9.96	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	54.09	45.91	9.96	0.00	0.00	0.00
Start of Water Year (09/28/2010 map)	80.59	19.41	0.00	0.00	0.00	0.00
One Year Ago (05/11/2010 map)	100.00	0.00	0.00	0.00	0.00	0.00



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U.S. Drought Monitor

Nebraska

May 18, 2010
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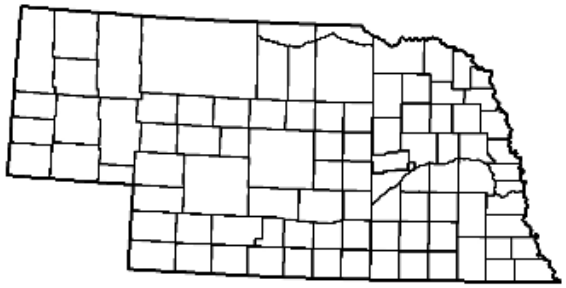
Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.0	0.0	0.0	0.0	0.0	0.0
Last Week (05/11/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
3 Months Ago (02/23/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/05/2010 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Water Year (10/06/2009 map)	81.6	18.4	0.0	0.0	0.0	0.0
One Year Ago (05/19/2009 map)	77.8	22.2	0.0	0.0	0.0	0.0



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Author: Eric

U.S. Drought Monitor

Nebraska

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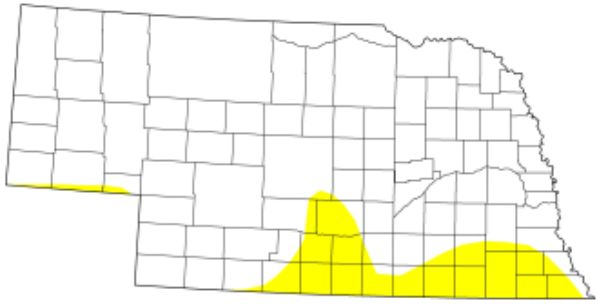
One Year Ago (05/11/2010 map)	100.00	0.00	0.00	0.00	0.00	0.00



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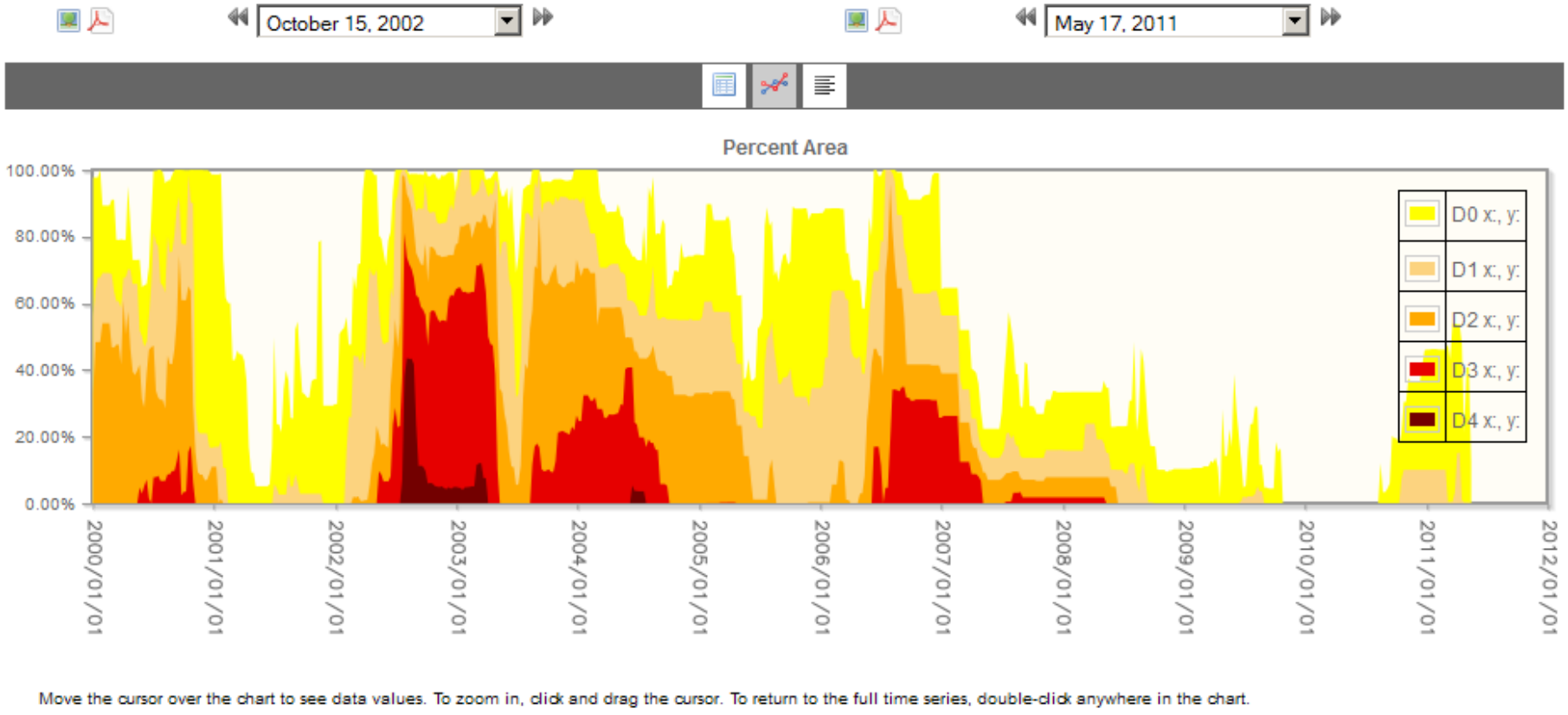
Jan. 2000 - May 2011 U.S. Drought Monitor Time Series for Nebraska



Move the cursor over the chart to see data values. To zoom in, click and drag the cursor. To return to the full time series, double-click anywhere in the chart.

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Drought Monitor Archives

Nebraska

Drought Severity

D0 - Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D2 Drought - Extreme
D4 Drought - Exceptional

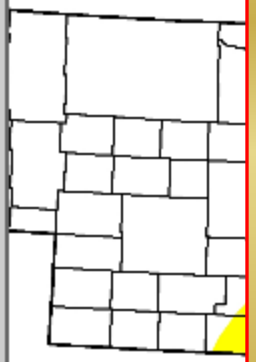
Contiguous U.S.

Regions

High Plains
Midwest
Northeast
South
Southeast
West

States

Alabama	Illinois	Montana	Puerto Rico
Alaska	Indiana	Nebraska	Rhode Island
Arizona	Iowa	Nevada	South Carolina
Arkansas	Kansas	New Hampshire	South Dakota
California	Kentucky	New Jersey	Tennessee
Colorado	Louisiana	New Mexico	Texas
Connecticut	Maine	New York	Utah
Delaware	Maryland	North Carolina	Vermont
District of Columbia	Massachusetts	North Dakota	Virginia
Florida	Michigan	Ohio	Washington
Georgia	Minnesota	Oklahoma	West Virginia
Hawaii	Mississippi	Oregon	Wisconsin
Idaho	Missouri	Pennsylvania	Wyoming



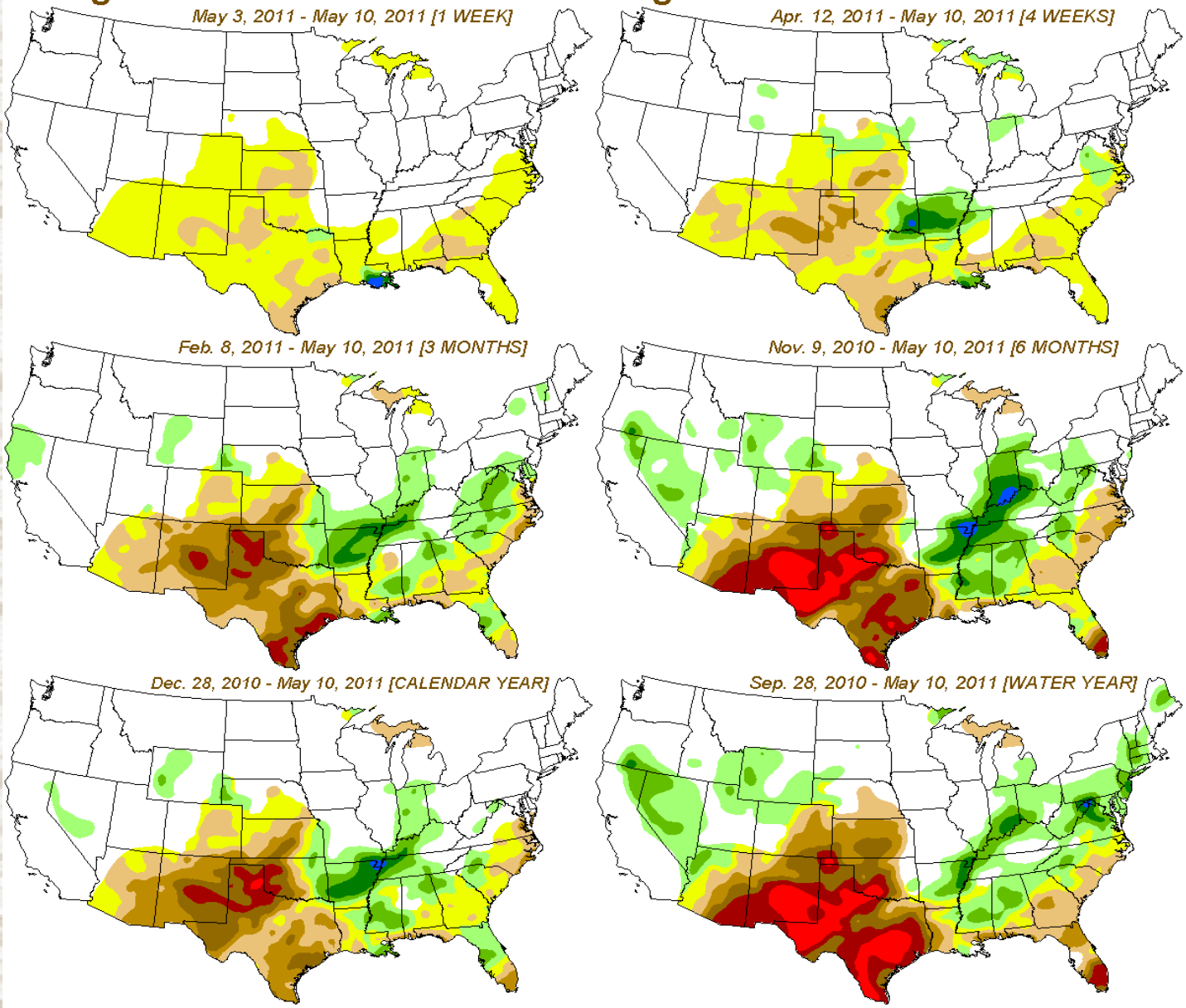
Over 10 years of data and 500+ maps in the archive !

April 29, 2008

April 28, 2009

Week	Nothing	D0-D4	D1-D4	D2-D4	D3-D4	D4
April 29, 2008	66.67	33.33	19.12	7.75	1.72	0.00
April 28, 2009	71.81	28.19	0.00	0.00	0.00	0.00

Drought Monitor Classification Changes for Selected Time Periods

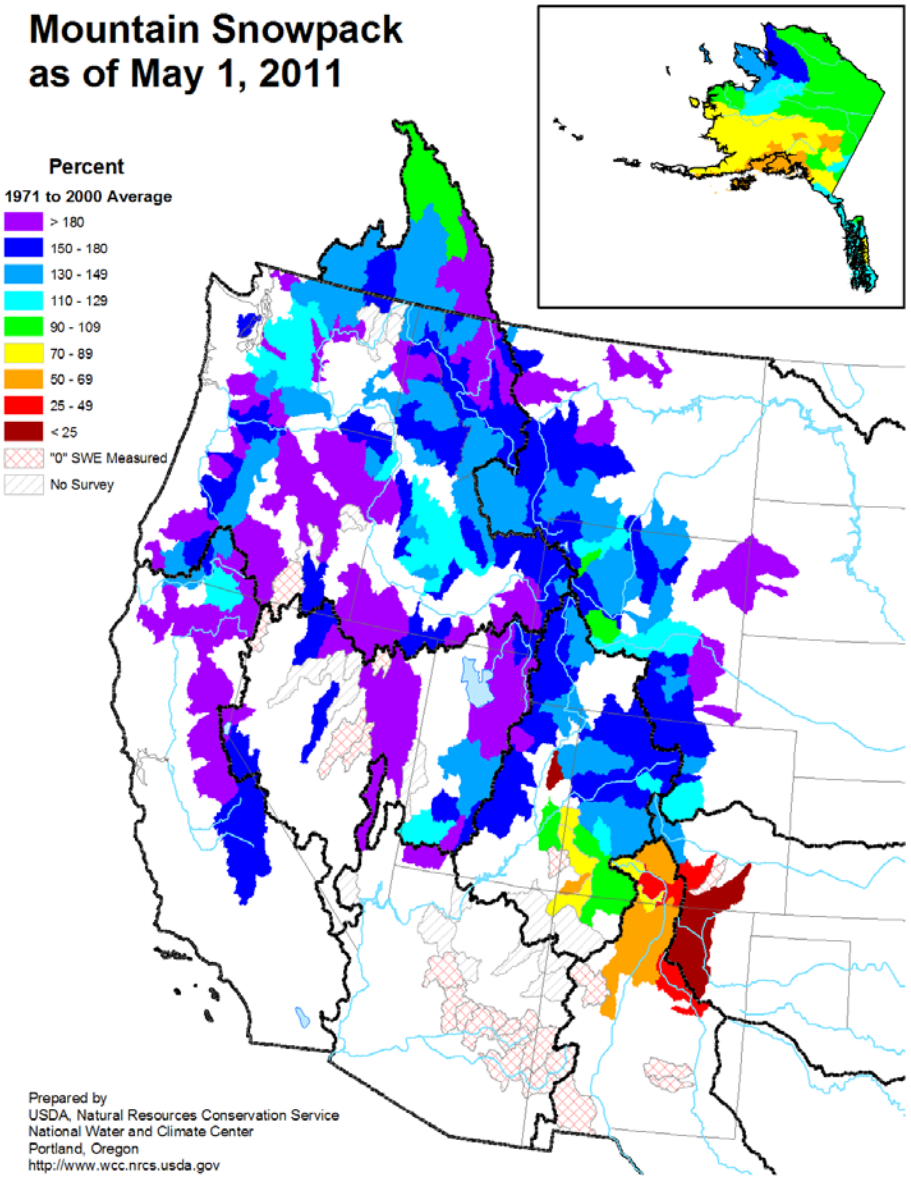


- 5 class improvement
- 4 class improvement
- 3 class improvement
- 2 class improvement
- 1 class improvement
- unchanged
- 1 class deterioration
- 2 class deterioration
- 3 class deterioration
- 4 class deterioration
- 5 class deterioration

These maps depict approximate changes in drought intensity from selected initial times to the current week, with no consideration given to intervening weeks. The difference calculations are based on interpolated 4 km grids of Drought Monitor classifications, and as a result, will be smoother than would similar products based directly on the published versions of the Drought Monitor.

Mitigation Center

Mountain Snowpack as of May 1, 2011



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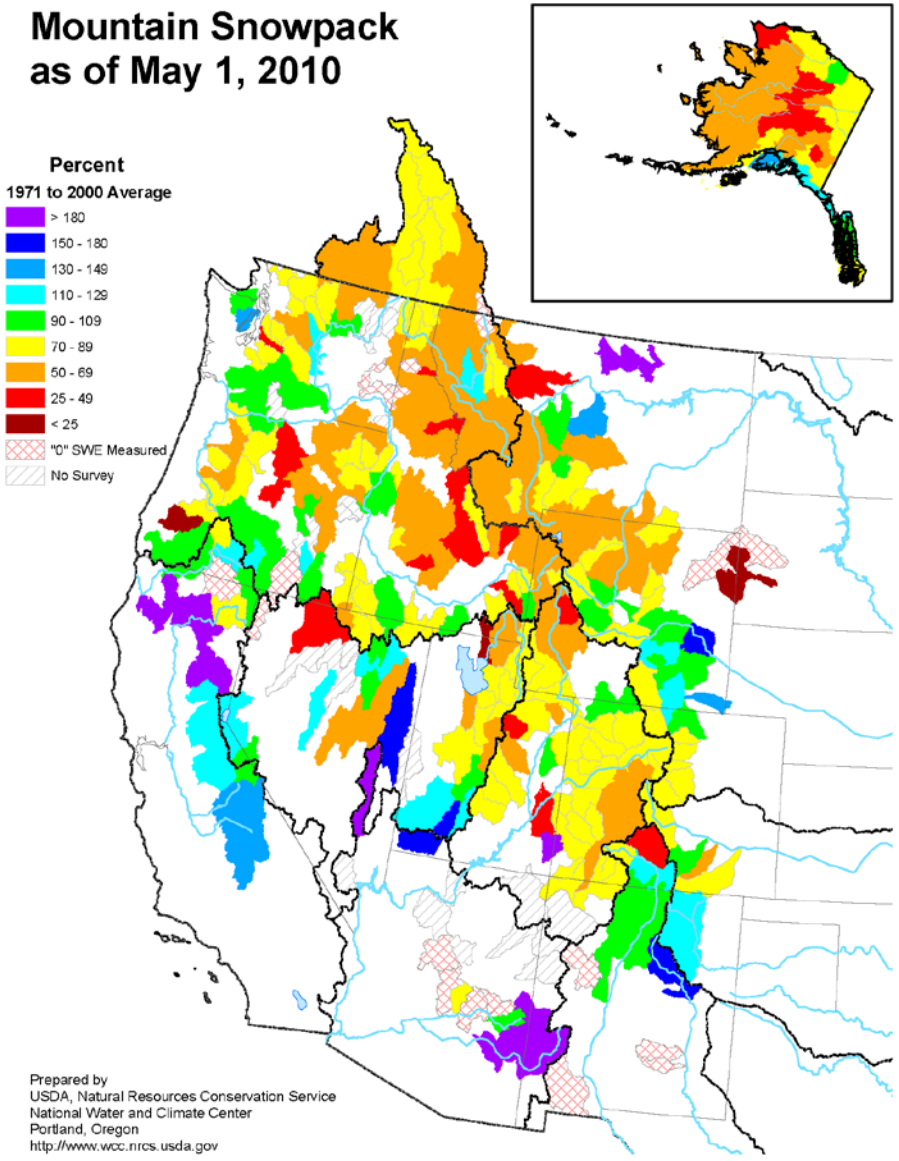

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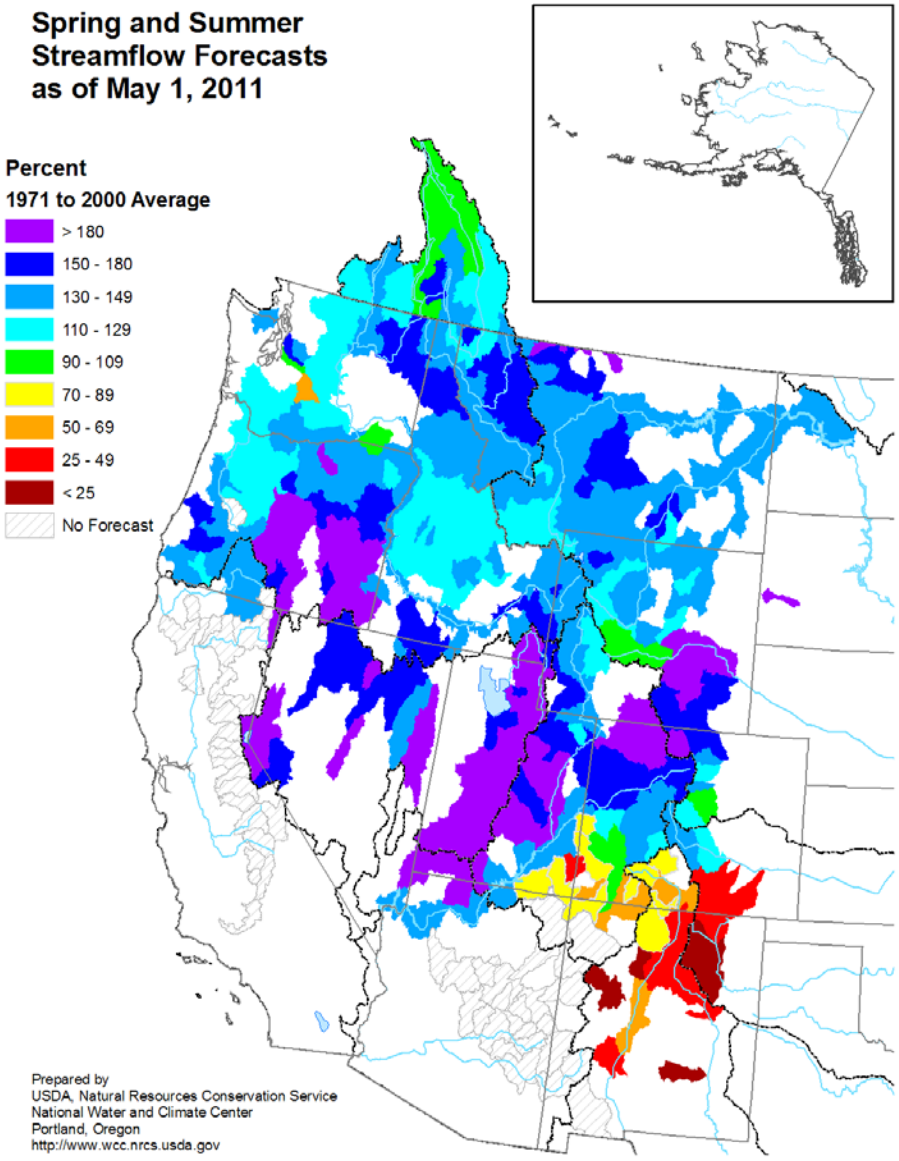
Spring and Summer Streamflow Forecasts as of May 1, 2011



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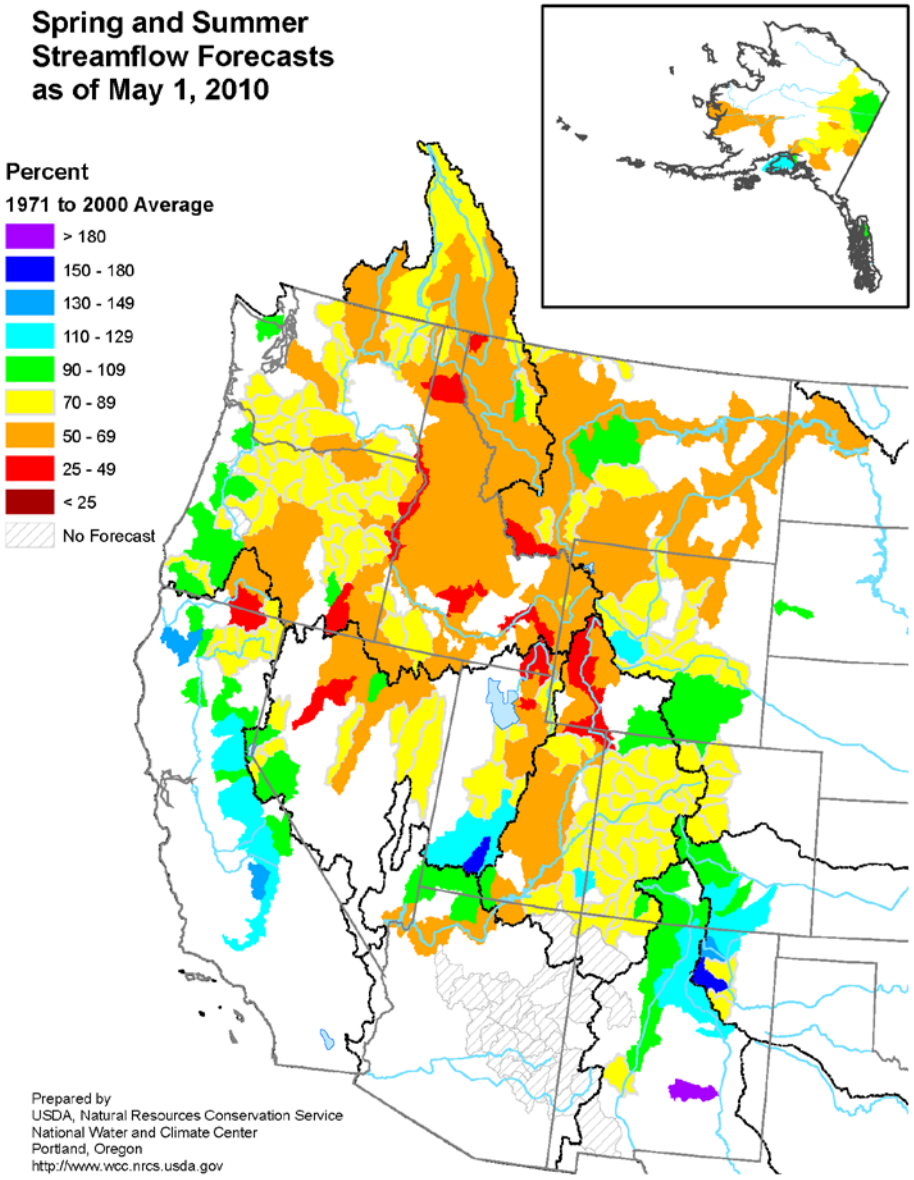

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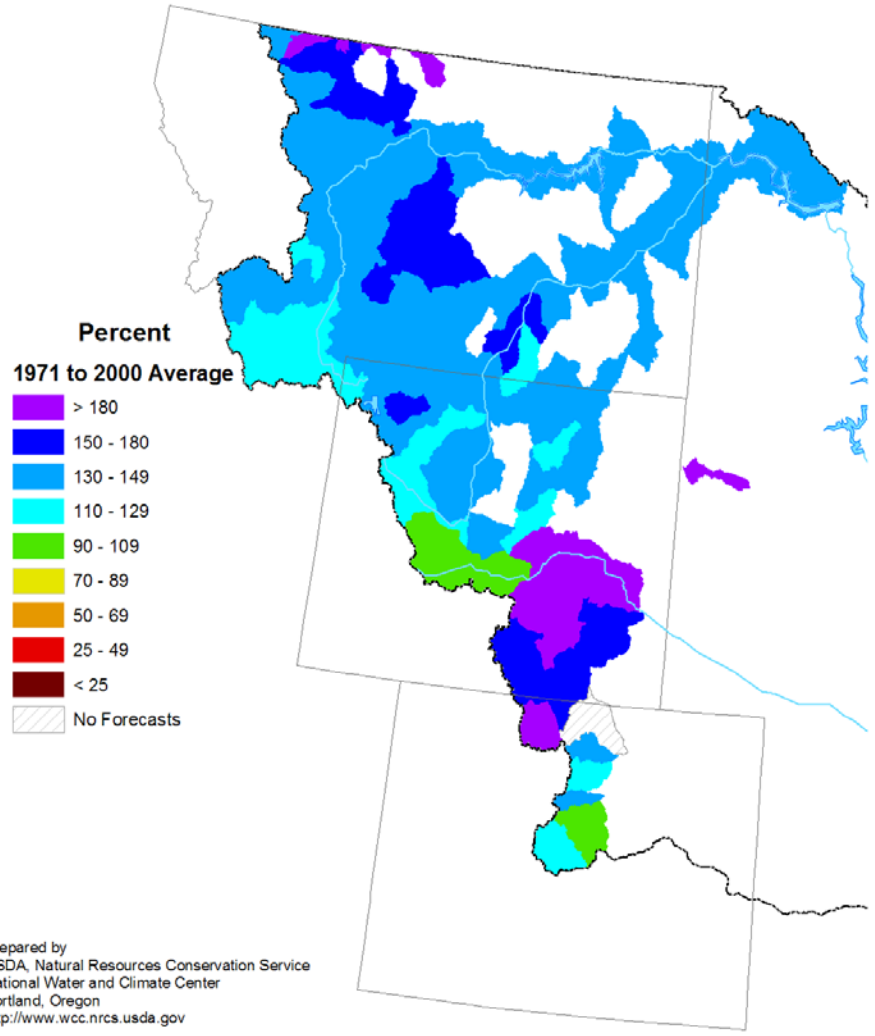
Missouri River Basin
Spring and Summer Streamflow Forecasts
as of May 1, 2011



Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

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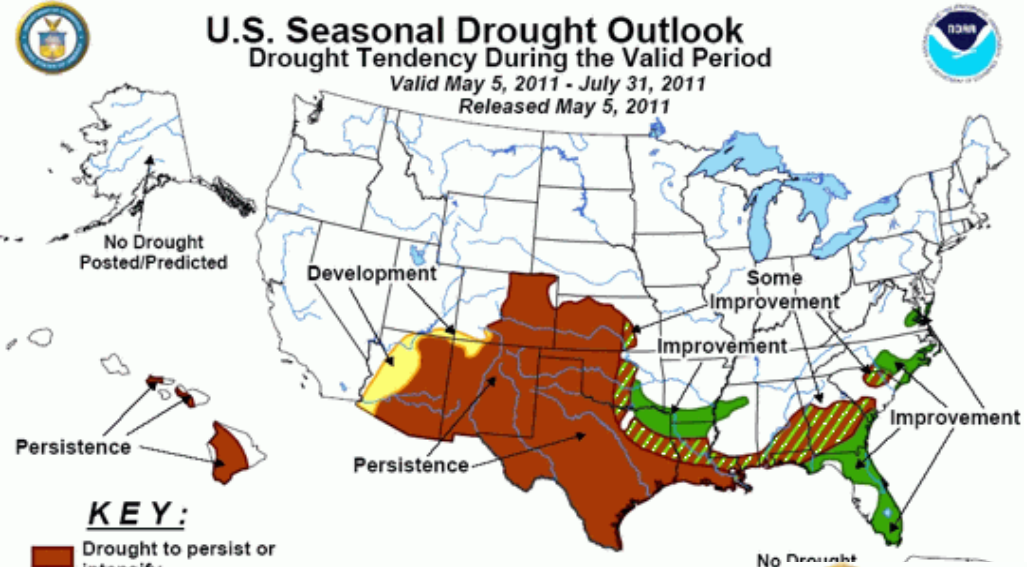
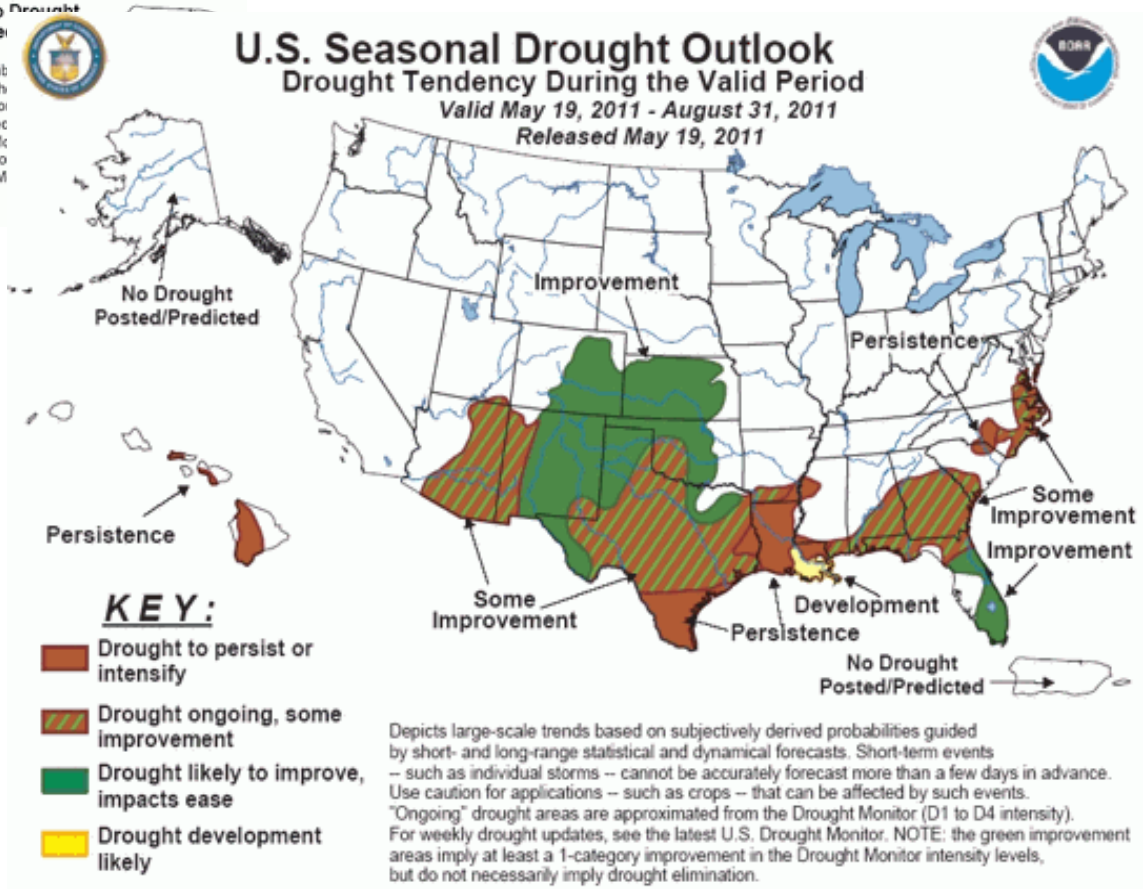
National Drought Mitigation Center





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Nebraska Water Supply Update…

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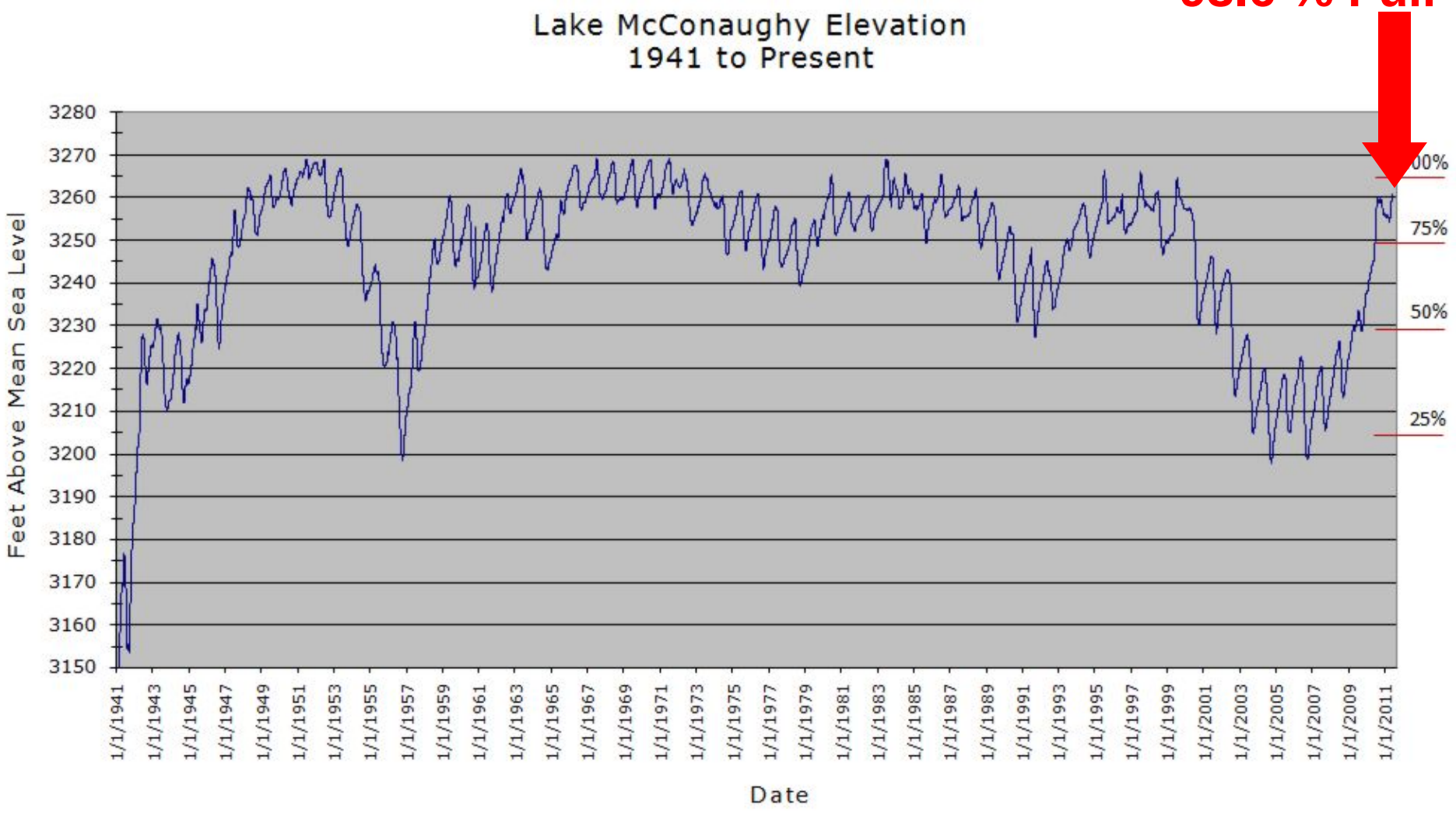
93.6 % Full



SOURCE: CNPPID www.cnppid.com

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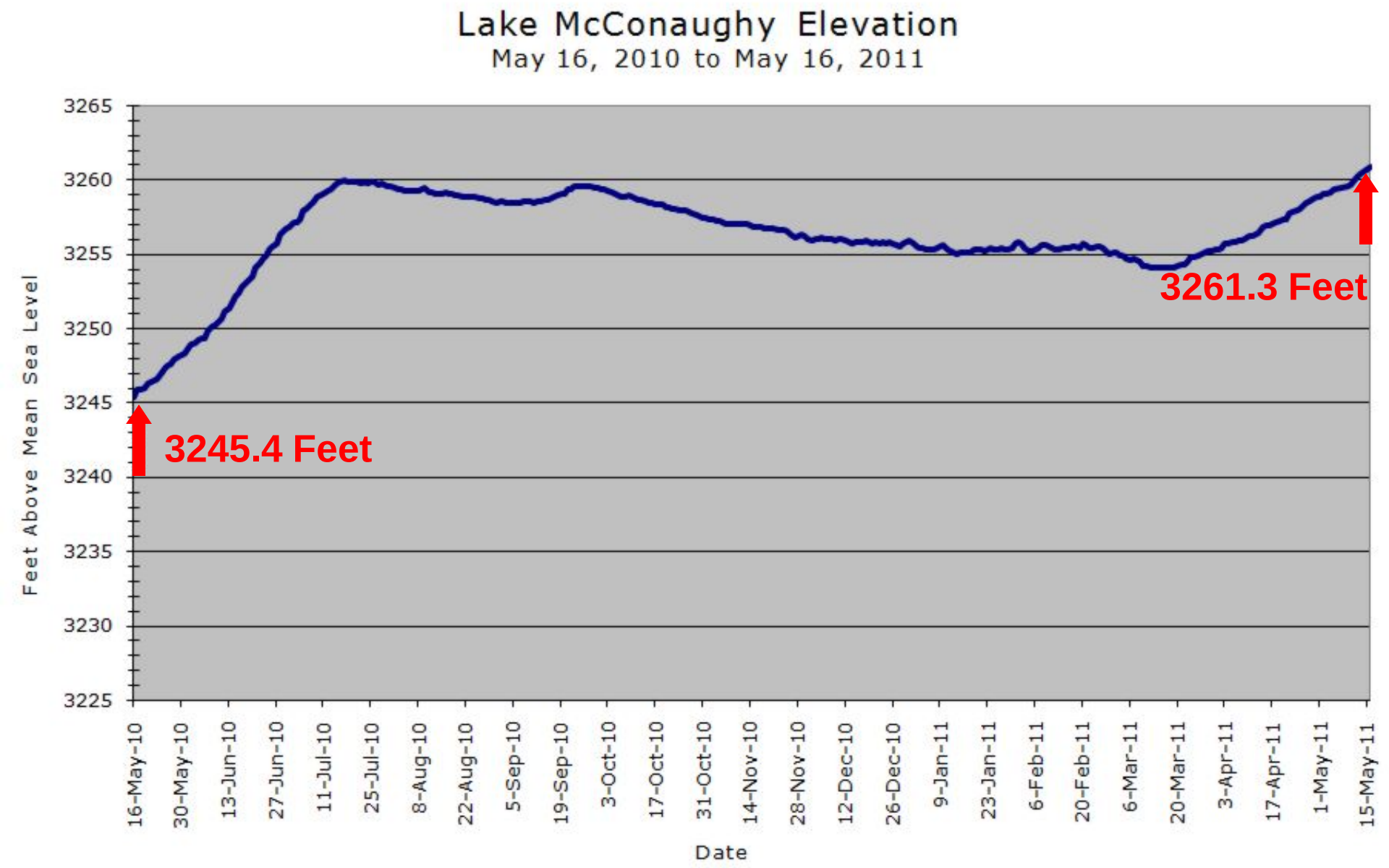

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SOURCE: CNPPID www.cnppid.com

National Drought Mitigation Center

Lake McConaughy

“Flows measured at the river gauge near North Platte are currently about 2,200 cubic feet per second (cfs) and are expected to increase to more than 4,000 cfs. Even at these higher flows, Lake McConaughy continues to store water and lessen the amount of flooding that would otherwise occur, with the new outflows still well below the more than 7,000 cfs that is currently flowing into the reservoir.”

“The Bureau's latest projection for total April through July runoff in the North Platte Basin above Glendo Reservoir is 2.05 million acre-feet, more than 500,000 acre-feet more than was forecast in early April. A series of storms last month added to the already significant snowpack accumulation in the North Platte Basin. More than 400,000 acre-feet of water was evacuated from Bureau's reservoirs in March and April and releases continue to make room for the higher anticipated inflows. During this time, Central sought and obtained permission from the Federal Energy Regulatory Commission to store above normal maximum levels in Lake McConaughy.”

“In addition, snowpack accumulation in the South Platte Basin is also well above normal and it is anticipated that high flows along the South Platte River could eventually cause significantly higher flows in the Platte River east of the confluence with the North Platte River.”

SOURCE: CNPPID News Release, May 12, 2011

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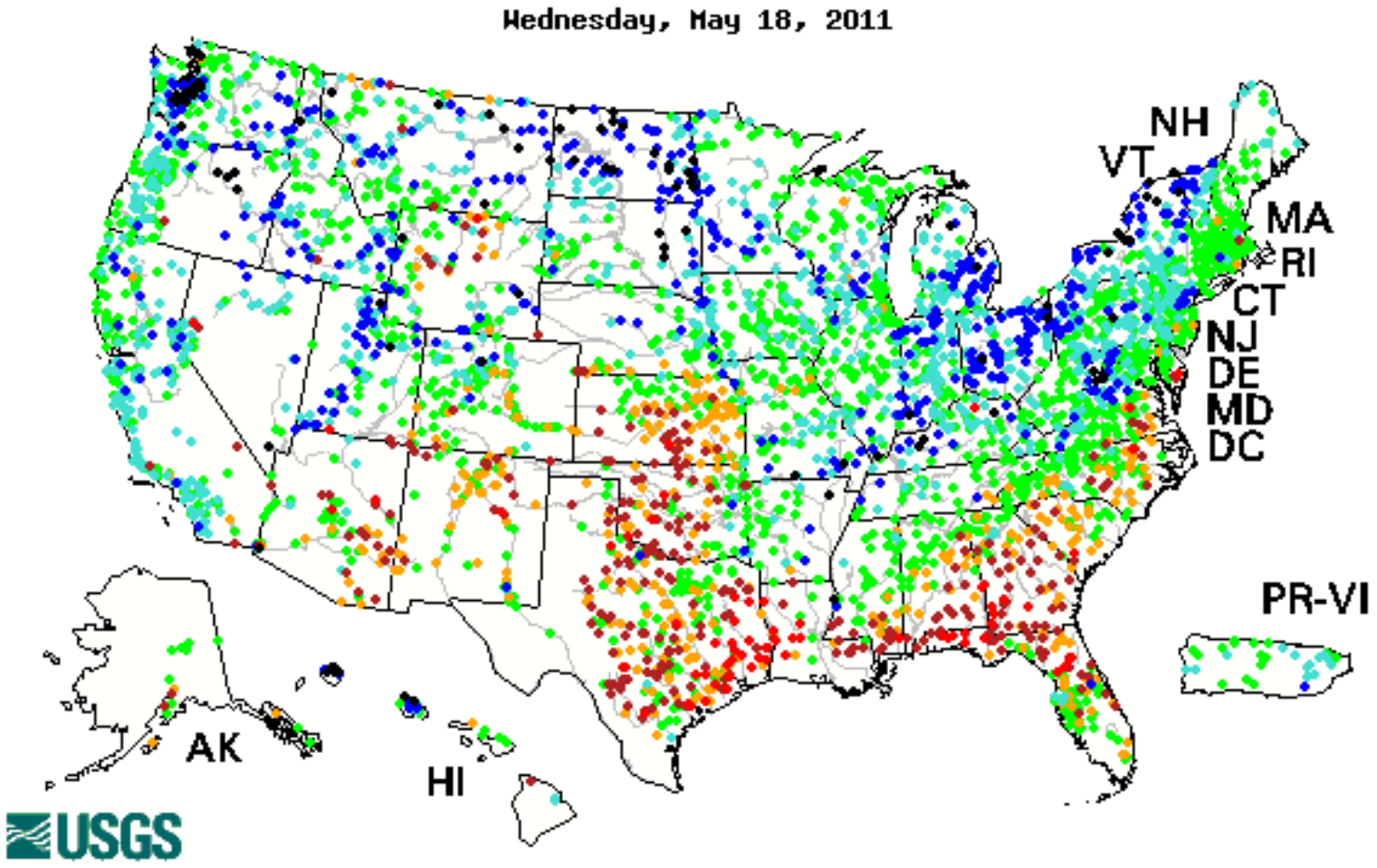
Map of 14-day average streamflow compared To historical streamflow for the day of year



Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

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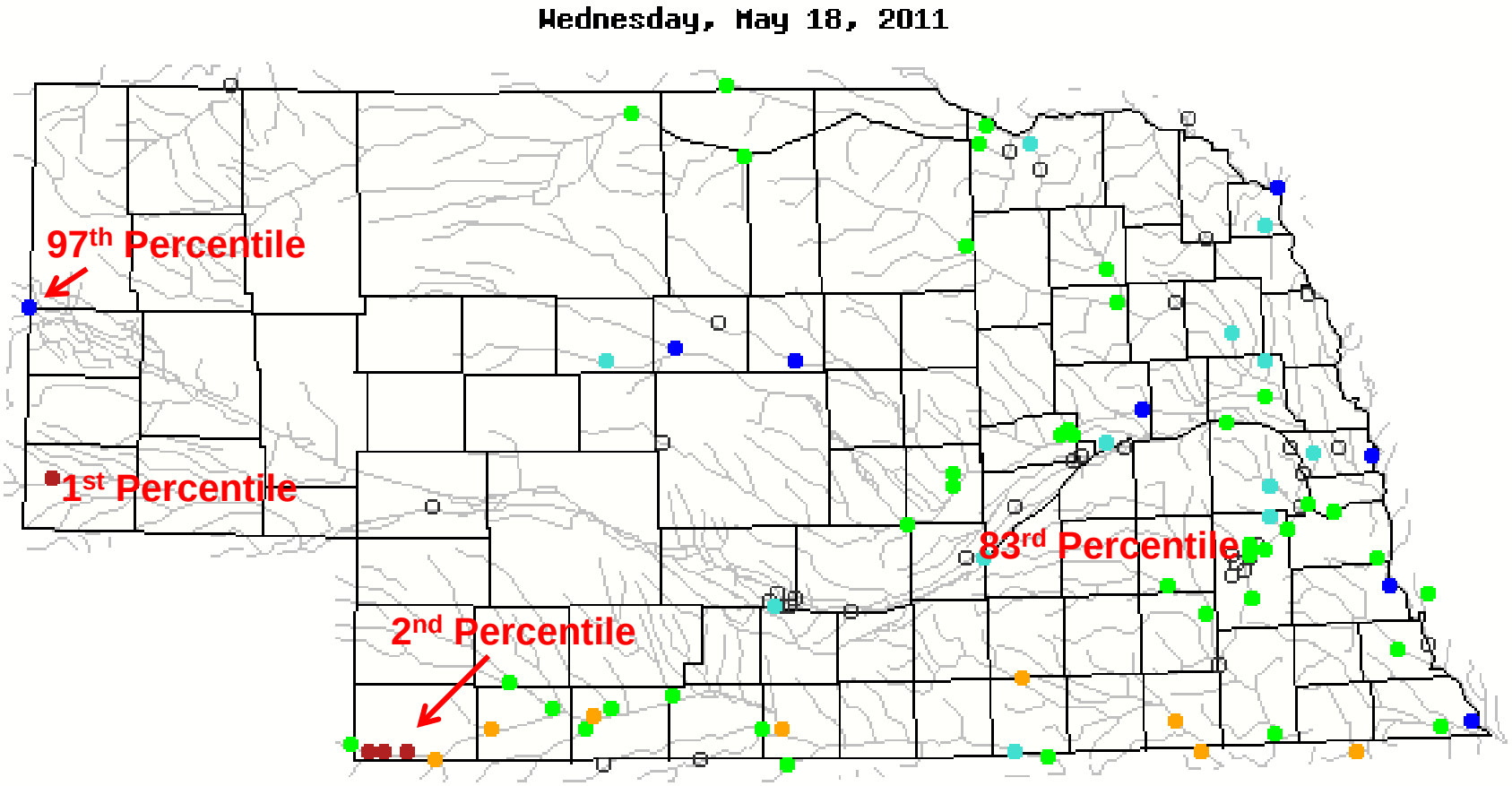

USGS

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Explanation - Percentile classes							
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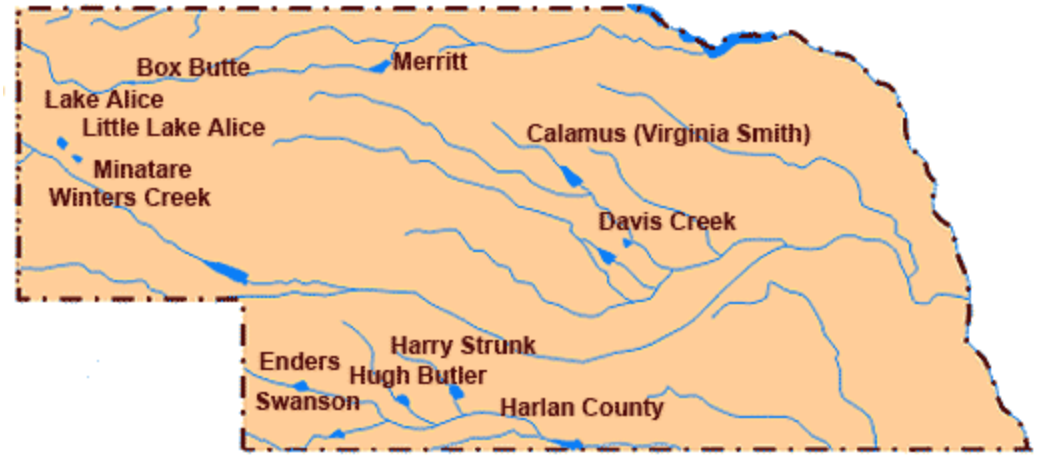
National Drought Mitigation Center

Republican River Basin

- **Hugh Butler:** 18.9% of conservation pool
- **Enders:** 42.4% of conservation pool
- **Harry Strunk:** 100% of conservation pool
- **Swanson:** 69.6% of conservation pool



Source: BOR http://www.usbr.gov/gp/lakes_reservoirs/

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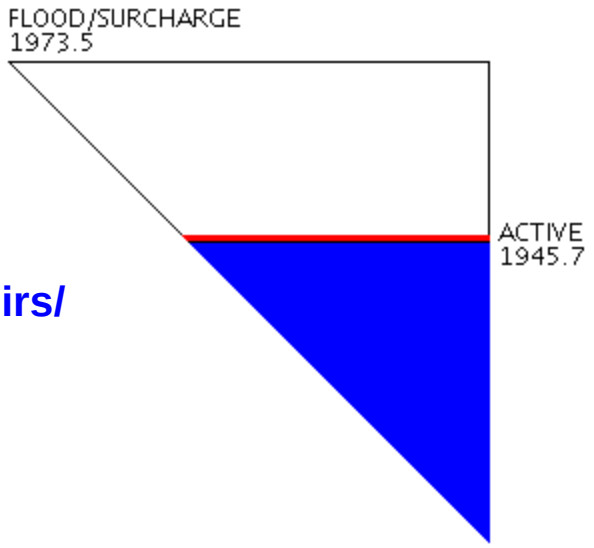
Republican River Basin

Harlan County Current Conditions

- ✓ Conservation Pool is 100% Full
- ✓ 324,317 Acre-Feet of water in storage compared to 339,235 AF last year at this time



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Summary

- Relatively okay heading into Spring 2011but on the fringe of major drought in s. Plains
  - 12% of NE in Abnormally Dry (D0)
- Well-above average snows in the Rockies…should result in good inflows
- Much better lake levels in general (Big Mac *UP* 16 ft. (93% full) from this time last year and Harlan County is at 100%)
- Dryness in southeast and Panhandle of NE on the USDM, possible expansion northward of drought (D1-D4) in the Plains as temperatures increase this summer

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Questions?

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